

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7 25 FUNSTON ROAD KANSAS CITY, KANSAS 66115

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Site: Carter Carburetor
ID#: MCD000822601
Break: 2.6
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ACTION MEMORANDUM

SUBJECT: Request for a Removal Action at the Carter Carburetor

Site, St. Louis, Missouri

FROM: Betty J. Berry, On-Scene Coordinator,

SUPR/EFLR

THRU: Michael J. Sanderson, Director

Superfund Division

TO: Dennis Grams, P.E.

Regional Administrator

CERCLIS ID#: MOD000822601

SITE ID#: JJ

CATEGORY OF REMOVAL: Time-Critical

NATIONALLY SIGNIFICANT: No

I. PURPOSE

The purpose of this Action Memorandum is to request approval of the proposed actions and funding for a time-critical removal under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended ("CERCLA") at the former Carter Carburetor facility located in St. Louis, Missouri.

II. SITE CONDITIONS AND BACKGROUND

A. SITE DESCRIPTION

1. Removal Site Evaluation.

The site includes a former carburetor manufacturing facility. The facility was closed by its owners, ACF Industries, Inc. (ACF), in 1984. The manufacturing lines were dismantled and most of the equipment was shipped to new locations or sold. On April 26, 1984, ACF sold the manufacturing building and property. At the time of the sale, 20 transformers, and an undisclosed number of capacitors and switch gears that contained polychlorinated biphenyl (PCB) fluids remained on site.

S00072984 SUPERFUND RECORDS The facility property has been owned by various parties since ACF sold it in 1984. These parties include Hubert and Sharon Thompson who initiated actions in 1988 and 1989 to dispose of the PCB fluids and contaminated equipment. The Thompsons also removed contaminated concrete in an area known as the pump room. Following the response actions by the Thompsons, a remediation verification study was performed by Environmental Operations, Inc., in November 1989. The results of this study confirmed that PCB contamination was still present in the pump room (also known as substation #1).

In April 1990, the U.S. Environmental Protection Agency, Region 7 (EPA) collected and analyzed samples from the site and confirmed PCB concentrations in soils ranging from 17.1 parts per million (ppm) to 18.5 ppm, and levels of PCBs on concrete ranging from 2.1 μ g/100cm² to 15,600 μ g/100cm² in the pump room. Following the EPA sampling, another PCB contamination study was conducted by Environmental Science and Engineering, Inc. (ESE) in September 1990. This study again confirmed that wipe samples taken from the pump room exceeded the PCB Spill Cleanup Policy criteria of 10 μ g/100cm² for high contact areas. A portion of the facility complex is currently owned by the St. Louis Land Reutilization Authority (consisting of the north die cast building, the south die cast building, and the south warehouse/office/shop building). The other portion of the building complex is currently owned by Carter Building, Inc. (CBI).

The EPA Emergency Planning and Response Branch (EP&R) conducted a site inspection visit in November of 1993 and conducted additional sampling in January and March of 1994. Sampling was conducted in the pump room (located in the portion of the building complex currently owned by CBI) as well as the parking lot north of the north die cast building. The primary reason for the November 1993 visit was to determine if anyone had access to and could be exposed to the area previously determined to be contaminated with PCBs. This investigation revealed that a brick wall had been placed around the pump room and that the entrances to the pump room area were locked. Analyses of sediment samples from a floor drain in the pump room confirmed PCB contamination of 4,800 mg/kg, but it is not known if this contamination has or is able to reach a city sewer system.

The November 1993 inspection also revealed that 2 large PCB transformers had been vandalized causing large amounts of PCB oil to grossly contaminate 2 areas around the south die cast building. One transformer is located on the roof on the western portion of the south die cast building (in an area known as substation #3). Analytical results confirm PCBs have contaminated walls and structural beams near the west end of the south die cast building. The second transformer is located on the northeast corner (in an area known as substation #4) of the

north die cast building just off Grand Boulevard. Two drums of highly contaminated PCB oil (640,000 mg/kg) were found under the second transformer. Immediately west of these drums is a large stain approximately 20 feet by 40 feet in size which is also PCB contaminated at 200,000 μ g/100cm². There are other stained areas in the parking lot which are suspected to be PCB contaminated. Following the November 1993 inspection, EPA requested that the St. Louis Land Reutilization Authority (LRA), the current owner of both the north and south die cast buildings, immediately overpack and secure the two drums as well as restrict access to the contaminated areas in that portion of the site and post PCB warning placards. The LRA overpacked the two drums and posted placards on the security fence surrounding the north parking lot. Besides the contamination detected near substation #3, EPA's March 1994 investigation confirmed widespread PCB contamination throughout both die cast buildings (see tabular sample results, page 5), and found evidence that unauthorized personnel were entering the die cast buildings and the die cast buildings had severely deteriorated.

Follow-up sampling was completed in June of 1995 to more thoroughly characterize contamination in the die cast buildings and around the underground storage tanks located northwest of the north die cast building. In addition, a structural evaluation was completed in July 1995 to develop information necessary for EPA to properly evaluate response action alternatives.

This Action Memorandum addresses the following problems associated with the north and south die cast buildings, the south warehouse facility, and the parking lot located north of these buildings.

- * A large PCB transformer (substation #4) has leaked PCB-contaminated fluid, resulting in the contamination of the north die cast building's steel supports and concrete. Asphalt and debris located in the north parking lot west of this PCB transformer has also been contaminated.
- * Both the north and south die cast buildings are heavily contaminated with PCBs and are in poor condition. Dioxin equivalents have been detected in a dust sample taken from the north die cast building. Per the Agency for Toxic Substances and Disease Registry (ATSDR), the level of dioxin equivalents does not pose a health concern because the site is in an industrial setting. The PCBs remain the contaminant of concern. Also located in both the north and south die cast buildings are several capacitors and at least 2 drums of light ballasts which may contain or be contaminated with PCBs. Also, approximately 17 smaller transformers, 16 drums of waste oils, 9 compressed gas cylinders (labeled anhydrous ammonia), and other small amounts of die casting materials are located in both the north and south die cast buildings and in the south warehouse. The large PCB

transformer substation, located at the west end of the south die cast building (substation #3), has leaked PCB-contaminated oil.

2. <u>Physical Location</u>.

The site currently occupies one and one half square city blocks in the city of St. Louis, Missouri. It is bounded on the north by Dodier Street, on the east by Grand Boulevard, on the south by St. Louis Avenue and on the west by North Spring Avenue and Hyams Street. The site covers approximately 10 acres.

3. <u>Site Characteristics</u>.

The site currently consists of several multistory, connected, manufacturing and warehouse buildings located in a mixed, urban commercial/residential area. The site is 80 feet in elevation above the Mississippi River and is not within the river's 100 year flood zone. There are approximately 5 acres under roof at this site. The areas to be addressed in this removal action include both the north and south die cast buildings and the south warehouse building, currently owned by LRA, and the former parking lot north of these buildings. A metal fabricatiuon shop, auto repair shop, and a plastics company are leasing space in a portion of the facility complex owned by CBI. Areas of PCB contamination also exist in the portion of the facility complex owned by CBI, and will be addressed by separate, additional response actions.

4. Release or Threatened Release Into the Environment of a Hazardous Substance, or Pollutant or Contaminant.

Investigations completed by EPA have confirmed high concentrations of PCB contamination in the area north of the building currently owned by the LRA. A large PCB transformer is located on the northeast corner of the north die cast building. Widespread PCB contamination also exists in both die cast buildings. The following are selected analytical results from EPA sampling events for the area north of the LRA property and for both die cast buildings.

Date Taken	Media	Location	Total PCBs
11/16/93	waste (oil)	west drum under substation #4	640,000 mg/kg
11/16/93	wipe	substation #4 runoff area	200,000 μg/100cm²
11/16/93	soil	under substation #4 platform	180,000 mg/kg
3/18/94	soil	sediment located near two underground tanks	1600 mg/kg
01/06/94	dust	dust sample, south die cast building	2,600 mg/kg
01/06/94	dust	dust sample, north die cast building	10,200 mg/kg
03/17/94	wipe	stained area near spilled 32 gallon transformer, north die cast building	136,000 μg/100cm²
06/26/95	concrete core	top 1 inch from north die cast building	5,070 mg/kg

The PCB oil has grossly contaminated the former parking lot surfaces north of the north die cast building (see attachment for substation locations). All samples in the previous table exceed cleanup criteria identified in EPA's PCB Spill Cleanup Policy at Subpart G of 40 C.F.R. Part 761.

5. NPL Status.

The Carter Carburetor site is not on, nor has it been proposed for, the National Priorities List.

B. OTHER ACTIONS TO DATE

1. Previous Actions.

In the early 1980s, ACF was required by the Industrial Pollution Control Section of the Metropolitan St. Louis Sewer District to monitor and control wastewater discharges containing PCBs. The ACF instituted physical and procedural controls to reduce PCBs in their wastewater

discharges. These controls were reported to be in effect until the facility was decommissioned in 1984 and deeded to the LRA.

In April 1985, the property was transferred by LRA to Hubert and Sharon Thompson. In January 1986, the Thompsons sold a portion of the facility complex to Edward Pivirotto and his wife. This portion of the facility reverted back to the LRA in February 1992 as a result of the Pivirottos' failure to pay real estate taxes. An anonymous caller in February 1986 reported that PCB transformers and related equipment were being scrapped out by the then current owners. In August 1987, EPA conducted a Toxic Substances Control Act (TSCA) inspection of the facility which led to the issuance of a TSCA administrative complaint to Hubert Thompson. As a result of the TSCA complaint, Mr. Thompson contracted with U.S. Pollution Control Inc. in April 1988 to remove the transformers. In June 1988, a consent order between Mr. Thompson and the EPA was issued, requiring Mr. Thompson to dispose of the transformers and cleanup the site.

In February 1989, the Missouri Department of Natural Resources (MDNR) conducted an inspection at the site. The inspection revealed that transformers, transformer oil, switches and contaminated concrete had been shipped off site for disposal. Analyses of samples collected during the MDNR inspection revealed PCB contamination in soils located in the pump room (substation #1).

The EPA conducted another TSCA inspection in March 1990 to determine if further cleanup action was necessary. Analyses of surface wipe samples collected during this inspection confirmed that contamination in the pump room still exceeded regulatory cleanup criteria for PCBs and that a transformer and two drums of contaminated material remained on site. In January 1991, EPA sent a letter to Mr. Thompson requesting a description of completed and/or planned cleanup activity at the site.

Mr. Thompson's attorney responded to the EPA request in February 1991, indicating that Mr. Thompson did not have the assets to continue cleanup activities at the site. The CBI foreclosed on the Thompsons in October 1991 and received a trustee's deed for the portion of the site property it currently owns.

Inspections at the facility complex prior to November 1993 have focused on the pump room (substation #1). Subsequent investigations in this area have confirmed that PCB contamination still exists in the pump room. The pump room has since been isolated from the rest of the building and is currently secure. As previously noted, EPA inspections in November of 1993 and in January and March of 1994 have confirmed high levels of PCB contamination near the two transformer spills and in other areas of the facility complex property.

Follow-up sampling was completed in June of 1995 to more thoroughly characterize contamination in the die cast buildings and around the underground storage tanks located northwest of the north die cast building. In addition, a structural evaluation was completed in July 1995 to develop information necessary for EPA to properly evaluate response action alternatives.

2. Current Actions.

All drums located near substation #4 have been relocated to a more secure part of the property. The LRA personnel are currently checking their property periodically to ensure site security. The facility is fenced and PCB warning signs have been posted.

C. STATE AND LOCAL AUTHORITIES' ROLE

1. State and Local Actions to Date.

The city of St. Louis Metropolitan Sewer District and the Health Department monitored the site with respect to PCB releases in the early 1980s.

2. Potential for Continued State/Local Response.

No future response actions are anticipated from either state or local authorities.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

A. THREATS TO PUBLIC HEALTH OR WELFARE

The present site conditions pose an imminent and substantial endangerment to public health or welfare which meets the criteria for response actions under 40 C.F.R. Section 300.415(b)(2) of the National Contingency Plan ("NCP"), as follows:

1. Actual or Potential Exposure to Nearby Human Populations, Animals or the Food Chain from Hazardous Substances or Pollutants or Contaminants.

The EPA investigations have confirmed the presence of extensive PCB contamination up to 180,000 mg/kg in sediment located on the concrete pad below substation #4 and 1600 mg/kg in soil sediment located near the two underground storage tanks on the northwest side of the north die cast building. Analysis of a wipe sample taken in the substation #4 runoff area shows contamination at 200,000 μ g/100cm². Extensive contamination also exists inside both die cast buildings. Analysis of a dust sample

taken from the north portion of the north die cast building confirmed PCBs at 10,200 ppm.

The LRA portion of the facility complex where contamination exists is surrounded by commercial and residential areas. A boys' club and ballpark are located north across Dodier Street. Unauthorized personnel (vagrants, vandals) could come into contact with the high levels of PCB contamination. The PCBs can be absorbed through the skin and may cause liver damage. Systematic poisoning symptoms include nausea, vomiting, loss of weight, jaundice, edema and abdominal pain. The PCBs are suspected to cause reproduction abnormalities in humans and mammals. The PCBs can accumulate in the food chain.

Routes of exposure for PCBs include inhalation of PCB-contaminated dust, direct contact with and ingestion of PCB-contaminated dust and soil, and ingestion of fruits, vegetables or animals contaminated by exposure to PCB-contaminated soil.

Weather conditions may cause hazardous substances or pollutants or contaminants to migrate or be released. The roof in portions of the die cast buildings has caved in and is allowing rain water to enter the buildings. This rain water may cause PCBs to migrate to other areas of the facility complex where people are working and/or to the underlying soils at the site. Severe weather could cause additional structural damage, thus exacerbating the problem.

2. <u>High Levels of Hazardous Substances or Pollutants or Contaminants in Soils Largely At or Near the Surface That May Migrate</u>.

The EPA investigations have confirmed sediment samples which contain 180,000 mg/kg and 1600 mg/kg located on the north side of the north die cast building. Analytical results from wipe samples taken in the substation #4 runoff area (200,000 μ g/100cm²) also confirm high levels of PCBs at the surface. This contamination is subject to migration by entrainment, windblown deposition and surface runoff. Surface runoff could potentially reach storm sewers and be discharged to nearby waterways.

The PCB Spill Cleanup Policy at 40 C.F.R. Section 761.125(c)(4)(v) specifies that for nonrestricted access areas soil must be decontaminated to 10 ppm PCBs, provided the minimum depth of excavation is 10 inches. In addition, the excavated soil must be replaced with clean soil (containing less than 1 ppm PCBs) and the spill area must be restored.

The PCB Spill Cleanup Policy at 40 C.F.R. Section 761.125(c)(4)(ii) specifies that for nonrestricted access areas indoor solid surfaces and high-contact outdoor solid surfaces must be cleaned to 10 $\mu g/100$ cm².

B. THREATS TO THE ENVIRONMENT

Present site conditions pose an imminent and substantial endangerment to human health and the environment which meet the criteria for response actions under 40 C.F.R. Section 300.415(b)(2) of the NCP, as follows:

1. Actual or Potential Exposure to Nearby Human Populations, Animals or the Food Chain from Hazardous Substances or Pollutants or Contaminants.

The Agency for Toxic Substances and Disease Registry ("ATSDR") has reported adverse effects of PCBs on unborn animals at ingestion dosages of approximately 3 to 13 mg/kg/day for acute exposure, and death in animals at ingestion dosages of approximately 750 mg/kg/day for acute exposures.

For chronic exposures (greater than 14 days), ATSDR reports effects on unborn and newborn animals at ingestion dosages of approximately 0.005 to 0.1 mg/kg/day; liver and skin damage and death are reported at ingestion dosages of approximately 0.1 mg/kg/day.

For acute exposures, ATSDR reports death in animals at skin contact dosages of approximately 1,250 mg/kg/day. For chronic exposures, liver and kidney damage is reported at skin contact dosages of approximately 100 mg/kg/day.

The levels of PCBs on the surface asphalt (near substation #4) in the north parking lot present a potential health problem to animal life that come into contact with contamination in this area.

IV. PROPOSED ACTIONS AND ESTIMATED COSTS

A. PROPOSED ACTIONS

1. Proposed Action Description.

This action will remove the immediate threat posed by PCB contamination located in the north parking lot, in the die cast building areas and in the south warehouse facility. More specifically this action entails:

- * Preparation of a Health and Safety Plan for the site response actions including worker protection and safety requirements.
- * Removal of the large PCB transformer located on the northeast corner of the north die cast building. This

transformer will be disposed in accordance with 40 C.F.R. Section 761.60(b), disposal requirements for PCB articles.

- Characterization and removal of all contaminated building material and debris on the north side of the north die cast building. This includes contaminated concrete, asphalt, sediment and/or soil. It is estimated that approximately 180 tons of material will be removed from the north parking lot area during implementation of this removal action. The parking lot area will be remedied to meet the nonrestricted access area guidelines found in the PCB Spill Cleanup Policy at Subpart G of 40 C.F.R. Part 761. For such areas, the policy specifies that soil must be decontaminated (or removed) to 10 ppm PCBs, provided the minimum excavation depth is 10 inches. In addition, the excavated soil must be replaced with clean soil (containing less than 1 ppm PCBs) and the spill area must be restored. removed material will be disposed of in accordance with 40 C.F.R. Section 761.60(a)(4)(ii) in an agency approved chemical waste landfill. This material will be disposed of at a facility which is in compliance with the CERCLA off-site policy as set forth in 40 C.F.R. Section 300.440 of the NCP. Once the asphalt and other contaminated material is removed, samples will be taken in accordance with 40 C.F.R. Section 761.130, verification sampling for PCBs. The two underground storage tanks located in the north parking lot will remain in place, based upon sample analyses which confirm only surface contamination exists around the tanks. Currently, there is no indication that contamination exists at depth or in the subsurface in the area of the tanks.
- * The contents of both die cast buildings and the south warehouse will be profiled, characterized and disposed. This includes:
- A) All drums, compressed gas cylinders and containers located in both die cast buildings and the south warehouse. These materials will be profiled and disposed in accordance with RCRA and/or TSCA regulations.
- B) Contaminated PCB articles in the area of substation #4 will be removed and disposed in accordance with 40 C.F.R. Section 761.60(b). All PCB capacitors, transformers and light ballasts will be disposed in accordance with TSCA regulations.
- C) All die cast machinery and building appurtenances still left in the buildings will be decontaminated and recycled or disposed in accordance with TSCA and/or RCRA regulations. These items include furnaces, ventilation and air ducts, exhaust systems, piping and associated machinery.
- D) The die cast structures (both north and south) and the south warehouse building will then be dismantled and all debris will be profiled for proper disposal in accordance with TSCA

and/or RCRA. Some material (metal roof trusses) may be able to be decontaminated and then recycled. If these cannot be decontaminated, they will be sampled and disposed as a RCRA and/or TSCA regulated waste.

- E) All liquids from underground lines, tanks and/or sumps in the die cast portion of the facility will be removed, profiled, decontaminated, and disposed in accordance with TSCA and/or RCRA requirements.
- F) The concrete floor will then be decontaminated to the extent practical. All loose dust and heavy PCB contamination will be removed and disposed in accordance with TSCA and/or RCRA requirements. An interim cover will then be installed over the exposed contaminated concrete slab until further testing is completed for the purpose of evaluating and determining the appropriate response action (which may include disposal, cleaning and/or capping) for the concrete foundation.
- * Perimeter air monitoring will be conducted throughout the removal action to ensure that no contaminants are leaving the site. Appropriate safety controls will be put into place to ensure pedestrian safety during the entire removal action.
- * A new fence will be constructed around the perimeter of the site and all entrances will be kept locked. Site access will continue to be restricted to the portion of the building complex currently owned by CBI. All entrances to the CBI portion of the property will be secured and locked.

2. Contribution to Remedial Performance.

The Carter Carburetor site is a not an NPL site. This action will only address areas of contamination within the north and south die cast buildings, within the south warehouse facility, and on the north side of the north die cast building. The proposed actions will mitigate the immediate short term threats posed by the contamination at the site. The need for long term cleanup has not been fully assessed. The proposed action will be consistent, and will not interfere, with any future remedial action which may be undertaken to address additional contamination problems at the site.

3. <u>Alternative Actions/Technologies</u>.

The EPA considered using alternative treatment technologies rather than removing and disposing of the contaminated material. The removal of transformers and the contaminated material is the most effective, expeditious action available to remove the current threat. The EPA's policy regarding the use of alternative technologies for removal

actions, as described in the OSWER Directive 9380.2-1 "Administrative Guidance for Removal Program Use of Alternatives to Land Disposal," is that the alternative technology being considered must provide for timely response and protection of human health and the environment. The policy also establishes three criteria to consider when using alternative technologies; effectiveness, implementability and cost.

Incineration, thermal desorption, solvent extraction and dechlorination are identified in the publication "Innovative Treatment Technologies: Overview and Guide to Information Sources" (EPA/540/9-91/002) as the only demonstrated effective treatment technologies for PCBs. Other potentially effective technologies include soil washing and solidification/stabilization.

Soil washing and solidification/stabilization were not considered viable treatment options for this site as both are considered only potentially effective for PCB remediation and further necessary research and development would not meet the removal objective of timely response. The treatment alternatives of thermal desorption, solvent extraction or dechlorination would result in a project length of 6 to 12 (or more) months, due to In addition, thermal desorption, necessary treatability testing. solvent extraction, or dechlorination are estimated to cost an average of two to three times that of excavation and disposal in an off site landfill. Incineration is timely, protective of human health and the environment, effective and implementable. However, this technology is estimated to cost an average of four to six times that of removal and disposal in an off site landfill of nonliquid material, with little or no anticipated risk reduction at the site than would be achieved by removal of contaminated debris and disposal in a landfill.

4. <u>Applicable or Relevant and Appropriate</u> Requirements.

The NCP, at 40 C.F.R. Section 300.415(i), provides that fund-financed removal actions under Section 104 of CERCLA shall, to the extent practical, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental, state environmental, or facility-citing laws.

The following are the Federal ARARS identified for this action.

a) Off-site shipments of hazardous waste will need to meet the manifesting requirements found under 40 C.F.R. Sections 262.20 to 262.23, the pre-transport requirements found under 40 C.F.R. Section 262.30, the packaging requirements found under 40 C.F.R. Section 262.31 and

- 49 C.F.R. Sections 173.202 and 173.241, and the labeling and marking requirements found under 40 C.F.R. Sections 262.32 and 761.45.
- b) The decontamination of equipment during the removal action will need to meet the requirements found under 40 C.F.R. Section 264.114.
- c) Generally applicable requirements are set forth respectively in 40 C.F.R. Sections 761.60, 761.125 and 761.130 for the disposal, cleanup and the verification sampling of PCB spills.

A written request for the identification of state ARARs was sent to MDNR. The MDNR response to the identification of ARARs will be included in the Administrative Record.

5. Project Schedule.

The EPA contractor would be tasked to prepare a workplan and site mobilization would commence within 30 days of workplan approval. On-site activities are anticipated to last approximately 6 months.

B. ESTIMATED COSTS

Extramural Costs:

Regional Removal Allowance Costs TAT Costs	\$1,425,930 70,000
Subtotal, Extramural Costs	1,495,930
Contingency	299,186
Total Extramural Costs	1,795,116
Intramural Costs	
Intramural Direct Costs	35,000
Intramural Indirect Costs	76,000
Subtotal, Intramural Costs	111,000
Total Removal Project Ceiling	\$1,906,116

V. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Without approval of the removal action in this Action Memorandum, the PCB contaminated areas will continue to pose a threat to unauthorized personnel who may happen to come into contact with the material.

VI. OUTSTANDING POLICY ISSUES

None.

VII. ENFORCEMENT

See attached Confidential Enforcement Addendum.

VIII. RECOMMENDATION

This decision document which represents the selected initial removal action for the Carter Carburetor site located in St. Louis, Missouri, has been developed in accordance with CERCLA as amended, and is not inconsistent with the NCP.

Conditions at this site meet the requirements of 40 C.F.R. Section 300.415(b)(2) of the NCP for a removal action. The total project ceiling, if approved, will be \$1,906,116. Of this, an estimated \$1,425,930 comes from the Regional removal allowance.

Approved:

Dennis Grams, P.E.

Regional Administrator

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